# **BookletChart**<sup>TM</sup>

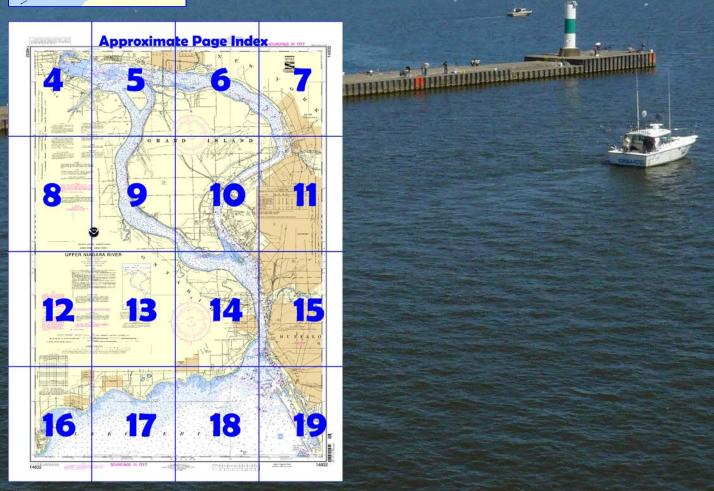
# Upper Niagara River NOAA Chart 14832



A reduced-scale NOAA nautical chart for small boaters When possible, use the full-size NOAA chart for navigation.



- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



# Published by the National Oceanic and Atmospheric Administration National Ocean Service Office of Coast Survey

<u>www.NauticalCharts.NOAA.gov</u> 888-990-NOAA

## What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

## What is a BookletChart<sup>™</sup>?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

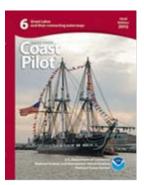
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <a href="http://www.NauticalCharts.NOAA.gov">http://www.NauticalCharts.NOAA.gov</a>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

## **Notice to Mariners Correction Status**

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at <a href="http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=148">http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=148</a> <a href="http://www.nauticalcharts.noaa.gov/nsd/searchbycharts.noaa



(Selected Excerpts from Coast Pilot)
Niagara River above Niagara Falls- At its
east end, Lake Erie becomes comparatively
narrow and has its outlet in the Niagara
River. From the head of the river, it is
about 20 miles to the falls and rapids
of American Falls and Horseshoe Falls.
About 5 miles below the head, the river is
divided into two channels by Strawberry
Island and Grand Island. Tonawanda
Channel and Niagara River Channel, the
U.S. channels, lead to the east of these

islands, and **Chippawa Channel**, the Canadian channel, leads to the west of these islands. At the lower end of Grand Island, the channels rejoin and lead for about 3.5 miles to the falls.

The International boundary between the United States and Canada follows a general middle of the river course in the upper Niagara River from the head of the river downstream to the head of Grand Island where the river forks around the island. The boundary then follows Chippawa Channel and is generally less than 1,000 feet off the west shore of Grand Island until Chippawa Channel and Niagara River Channel join at the northwest end of Grand Island. The boundary again follows a general middle of the river course around the south side of Goat Island and over Niagara Falls.

Chart Datum, Upper Niagara River.—Depths and vertical clearances under overhead cables and bridges in the Niagara River from its confluence with Lake Erie to the head of navigation, the turning basin at Niagara Falls, NY, is as follows: from Lake Erie to the Black Rock Canal Lock is the Low Water Datum of Lake Erie, 569.2 feet (173.5 meters); from just below the Black Rock Canal Lock to the south end of Grand Island is the sloping surface of the river, when the water surface just below the lock is at 564.4 feet (172.03 meters) and the Huntley Station gauge (at Niagara Mohawk Power Corporation plant) reads 563.8 feet (171.85 meters); from the south end of Grand Island to the south end of Tonawanda Island is the sloping surface of the river, when the Huntley Station gauge reads 563.8 feet (171.85 meters) and the gauge at Tonawanda Island reads 563.4 feet (171.73 meters); from the south end of Tonawanda Island to the turning basin at Niagara Falls, NY, is the sloping surface of the river, when the gauge at Tonawanda Island reads 563.4 feet (171.73 meters) and the gauge at Power Plant Intakes reads 561.5 feet (171.13 meters). All elevations are above mean water level at Rimouski, QC, on International Great Lakes Datum 1985 (IGLD 1985). (See Chart Datum, Great Lakes System, indexed as such, chapter 1.) Fluctuations of Water Level.—Variations in Lake Erie levels above or below Low Water Datum are reflected in Niagara River levels. The amount of the variation ranges from the full Lake Erie variation at the head of the river and gradually diminishes downstream to the vicinity of Chippawa, ON, just above Niagara Falls.

From Lake Erie, the fall of the Niagara River is about 10 feet to the head of the upper rapids near the junction with the Welland River. Just below the Welland River entrance, about 1.2 miles east of Goat Island, the Niagara waters begin their rapid descent to the level of Lake Ontario through the rapids above the falls, the great falls themselves, and the rapids below the falls.

**Currents.**—For about 1.7 miles, from its head to just above Peace Bridge, the river is wide, shallow, and rocky, and the current is from 2 to 3 mph. Just above the Peace Bridge, the river becomes a narrow gorge for about 2 miles to the lower end of Squaw Island. In the upper part of this gorge, the river is shallow, and the currents are about 8 mph at low to mean river stages and 9 mph at high stages. In the lower part of the gorge, the river is deeper and somewhat wider.

In 1986, with water level at 4.8 feet above low water datum, speed of the current was 7.7 to 9.7 knots.

Currents just below the International Bridge have speeds of 4 mph at low to mean river stages and 4.75 to 5 mph at high stages. In Tonawanda and Chippawa Channels, the currents vary from 1 to 4 mph. Channels.—Black Rock Canal is the recommended route from Lake Erie to facilities in the Niagara River below Squaw Island. The channel formerly dredged in the open river west of Bird Island and Squaw Island has shoaled to depths of 10 feet or less. Great care should be exercised in navigating this section of the river.

U.S. Coast Guard Rescue Coordination Center 24 hour Regional Contact for Emergencies

RCC Cleveland Commander

9th CG District (216) 902-6117 Cleveland, OH

2



Pump-out facilities

## RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

## PROHIBITED AREA

Do not enter without authorization from the Federal Minister of Transport.

## CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

## CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

## RACING BUOYS

Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

## POLLUTION REPORTS

Report all spills of oil and hazardous sub-stances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

## CAUTION

## SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine areas are shown as:

Pipeline Area

Cable Area

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging or trawling.

Covered wells may be marked by lighted or unlighted buoys.

# CAUTION

Cables for an Ice Boom are permanently attached to anchors on the lake bottom. They are submerged and not buried. Floating steel

The National Weather Service station listed below provides continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the

Buffalo, NY KEB-98 162.55 MHz (Chan. WX-1)

## CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Imagery and Mapping Agency Publication 117. Radio direction-finder bearings to commercial

broadcasting stations are subject to error and should be used with caution. Station positions are shown thus:

(Accurate location) o(Approximate location)

Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths, If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.

ш

## **Table of Selected Chart Notes**

The channel legend reflects the Corps of Engineers project depth. The Corps of Engineers publishes the controlling depth periodically in the U.S. Coast Guard Local Notice to Mariners. For further information on channel depths, direct inquiries to the Office of the District Enginee Corps of Engineers, Buffalo, N.Y.

The prudent mariner will not rely solely on any single aid to avigation, particularly on floating aids. See U.S. Coast Guard ight List and U.S. Coast Pilot 6 for details.

## HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1902 must be corrected an average of 0.219\* northward and 0.799\* eastward to agree with this chart.

Mariners are warned that numerous uncharted stakes and fishing structures, some submerged, may exist in the area of this chart. Such structures are not charted unless known to be permanent.

### CAUTION

Due to periodic high water conditions in the Great Lakes, some features charted as visible at Low Water Datum may be submerged, particularly in the near shore areas. Mariners should proceed with caution.

## SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

Sailing courses and limits indicated in magenta are recommended by the Lake Carriers Association and the Canadian Shipowners Association

### CALITION

## POTABLE WATER INTAKE

Vessels operating in fresh water lakes or rivers shall not discharge sewage, or ballast, or bilge water within such areas adjacent to domestic water intakes as are designated by the Commissioner of Food and Drugs (21 CFR 1250.93). Consult U.S. Coast Pilot 6 for important supplemental

## CAUTION

## BASCULE BRIDGE CLEARANCES

For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance

SAILING DIRECTIONS. Bearings of sailing courses are true and distances given thereon are in statute miles between points of departure.

AIDS TO NAVIGATION. Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation. See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

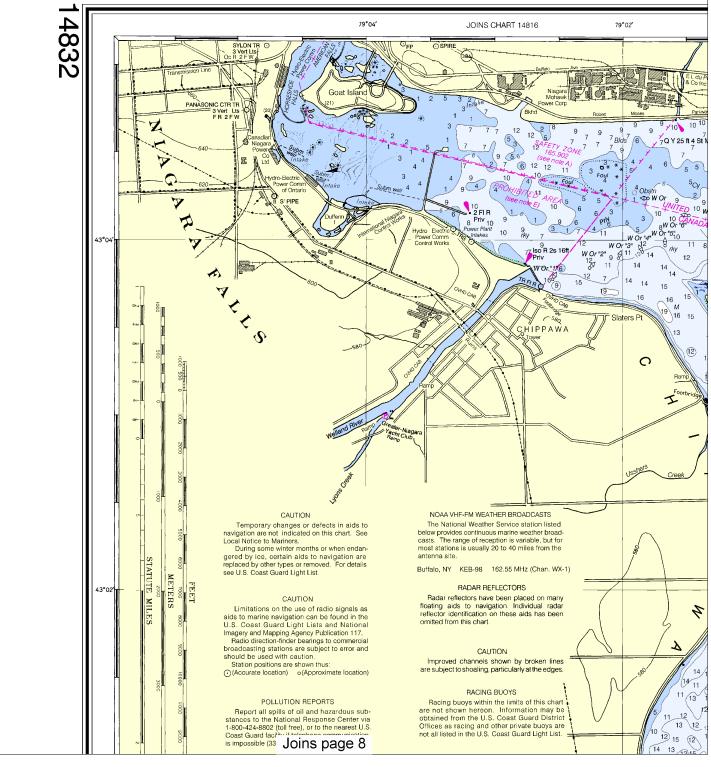
SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see

BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearance see U.S. Coast Pilot 6.

AUTHORITIES. Hydrography and topography by the the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, U.S. Coast Guard, and Canadian authorities.

### BUFFALO HARBOR CHANNEL DEPTHS TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF MAY 2011 AND SURVEYS TO MAY 2011 CONTROLLING DEPTHS FROM SEAWARD IN FEET AT GREAT LAKES LOW WATER DATUM (LWD) PROJECT DIMENSIONS RIGHT RIGHT INSIDE OUTSIDE QUARTER QUARTER LENGTH (FEET) NAME OF CHANNEL QUARTER BUFFALO HARBOR: SOUTH APPROACH SOUTH ENTRANCE INNER HARBOR SOUTH SECTION INNER HARBOR MOORING AREA 5-10 5-10 5-10 1200-400 1100-1600 18.5 21.4 0-900 4200 20.5 22.4 17.1 9.8 500-1600 INNER HARBOR MIDDLE SECTION 22.6 23.0 21.7 5-10 11150 NORTH ENTRANCE INNER HARBOR NORTH SECTION BUFFALO RIVER ENTRANCE CHANNEL BLACK ROCK CANAL: 24.7 20.8 16.3 800 1370-1200 1600-450 5-10 19.9 13.6 20.6 13.1 5-10 5-11 ENTRANCE CHANNEL 19.8 17.9 10.5 1000-450 2500 ENTRANCE TO BLACK ROCK LOCKS 18.9 14.8 5.6.7.8-08:6-10 200-400 THENCE TO BUOY 12 1.7 NM NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.



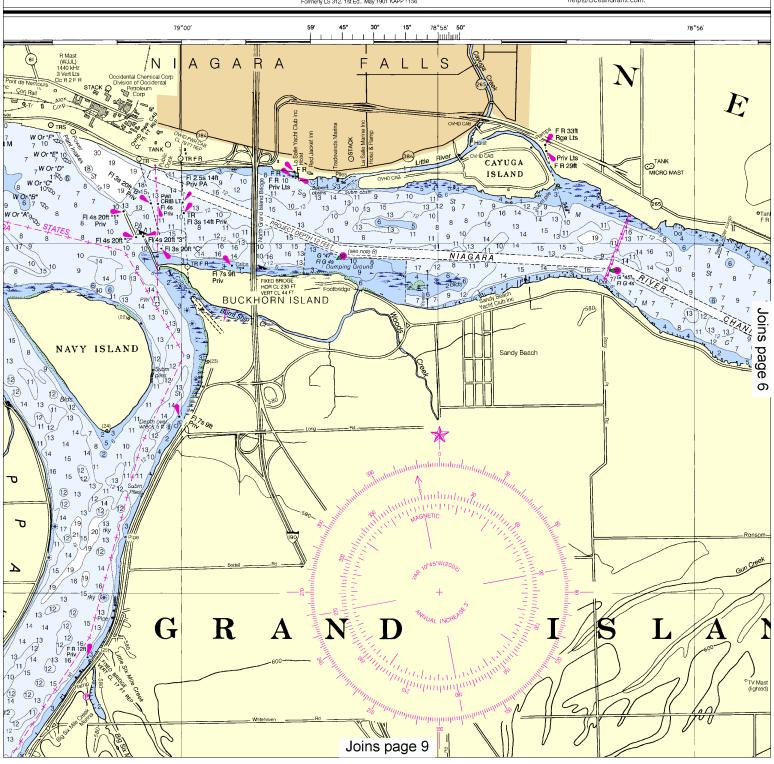




## PRINT-ON-DEMAND CHAR

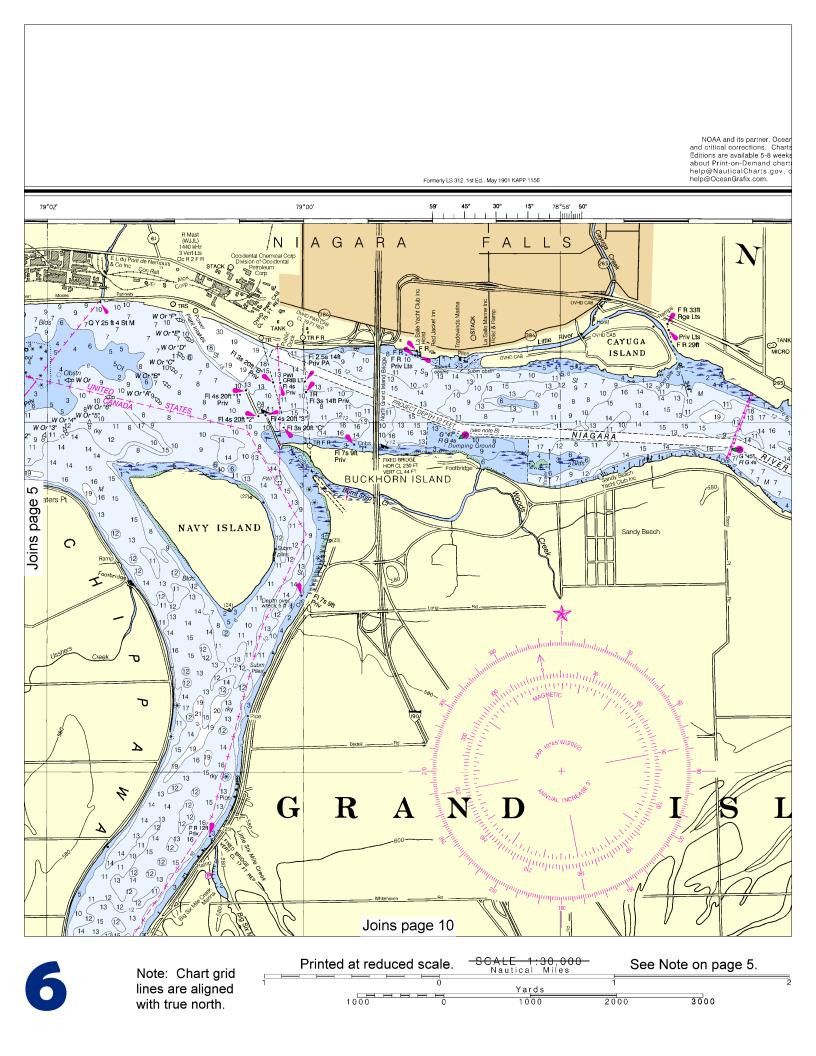
NOAA and its partner, OceanGrafix, offer this chart updated v and critical corrections. Charts are printed when ordered usin Editions are available 5-8 weeks before their release as tradition about Print-on-Demand charts or contact NOAA at 1-80-5 help@NauticalCharts.gov, or OceanGrafix at 1-877-56C help@OceanGrafix.com.

Formerly LS 312, 1st Ed., May 1901 KAPP 1156



This BookletChart was reduced to 75% of the original chart scale. The new scale is 1:40000. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.





## PRINT-ON-DEMAND CHARTS

PRINT-ON-DEMAND CHARTS
anGrafix, offer this chart updated weekly by NOAA for Notices to Mariners
its are printed when ordered using Print-on-Demand technology. New
ks before their release as traditional NOAA charts. Ask your chart agent
its or contact NOAA at 1-800-584-4683, http://NauticalCharts.gov,
or OceanGrafix at 1-877-56CHART, http://OceanGrafix.com, or

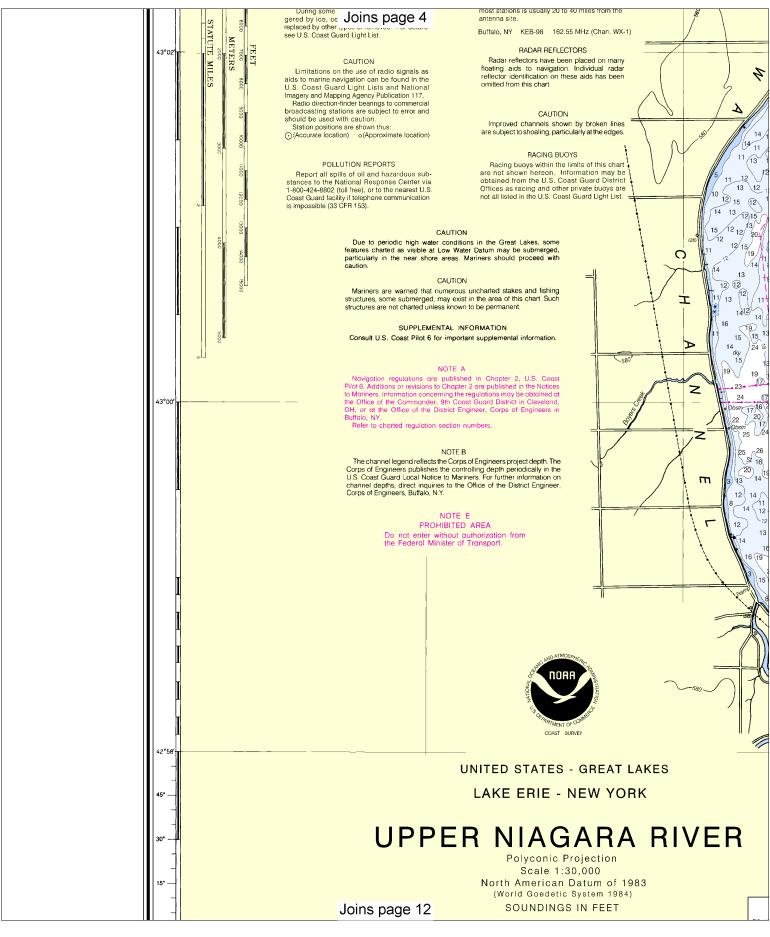
# SOUNDINGS IN FEET

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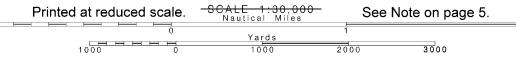
> This BookletChart has been updated through: Coast Guard Local Notice To Mariners: 0413 1/22/2013, NGA Weekly Notice to Mariners: 0413 1/26/2013,

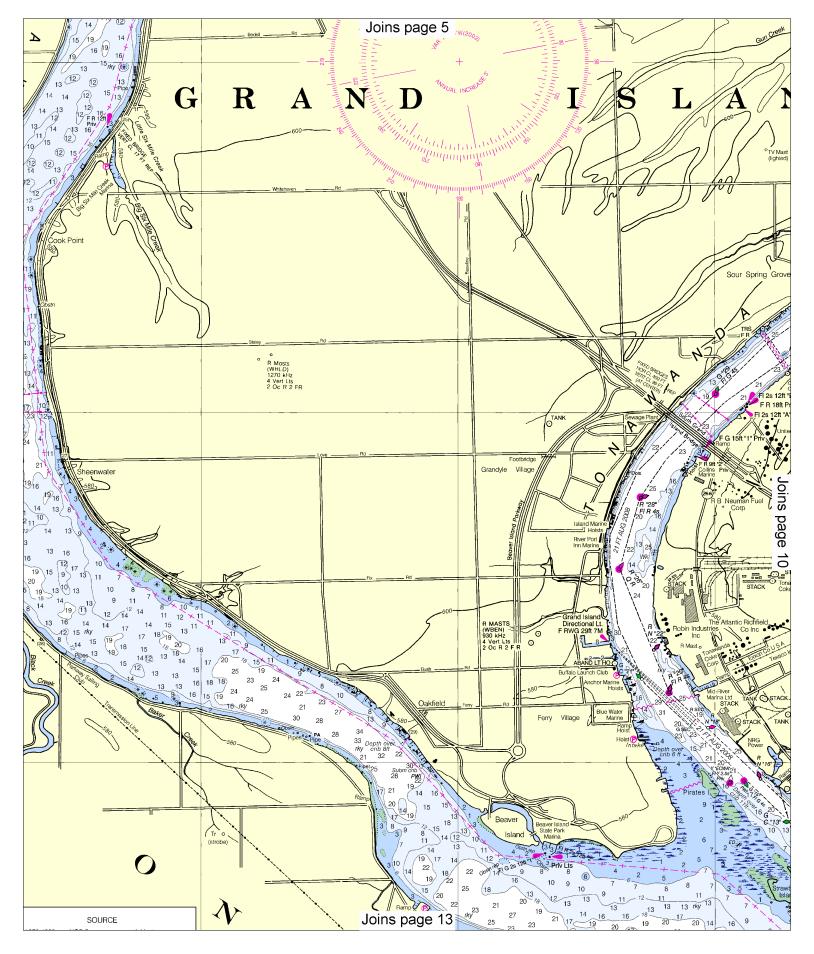
Joins page 11

Canadian Coast Guard Notice to Mariners: 0113 1/25/2013.

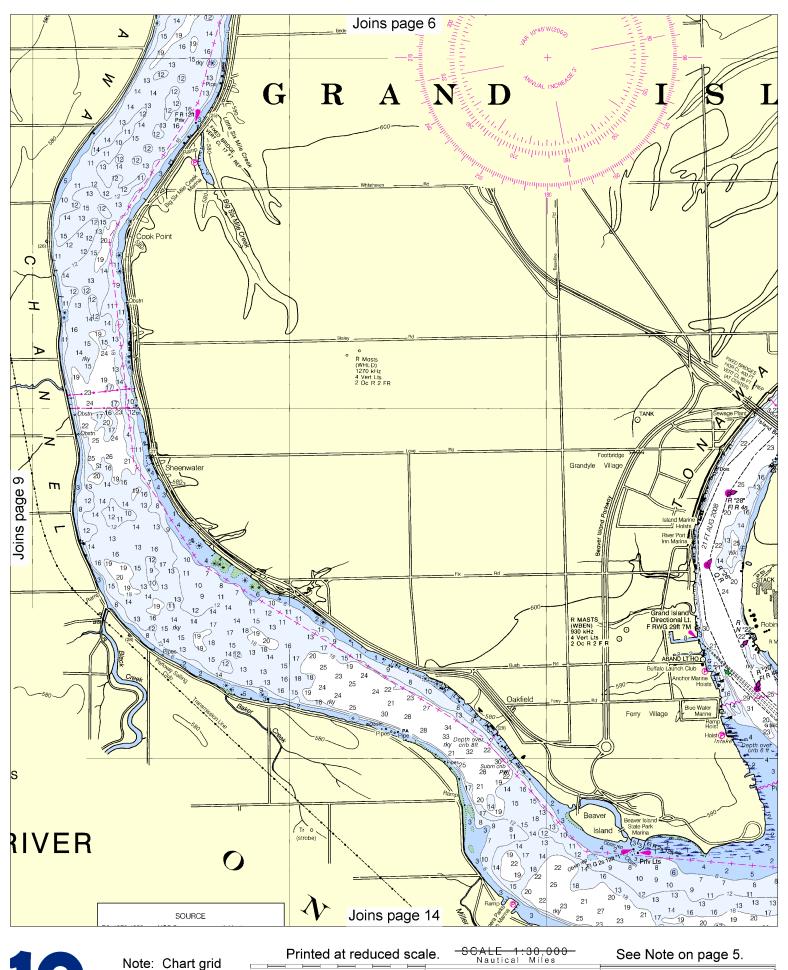




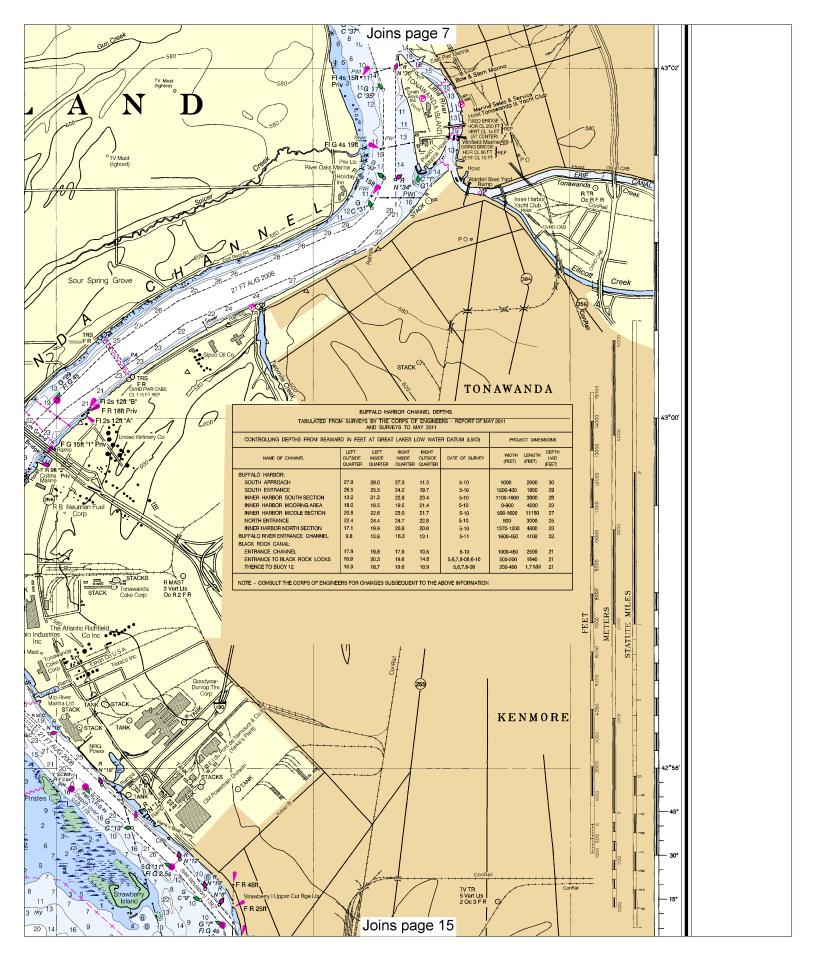


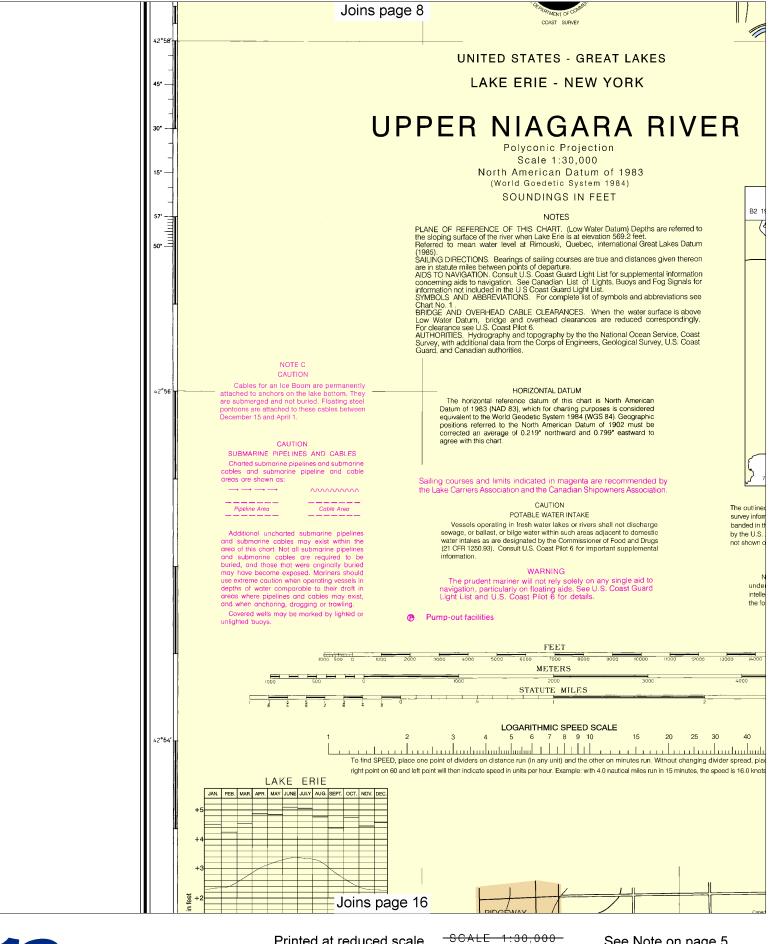


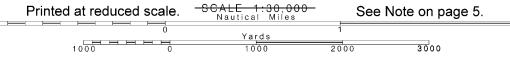


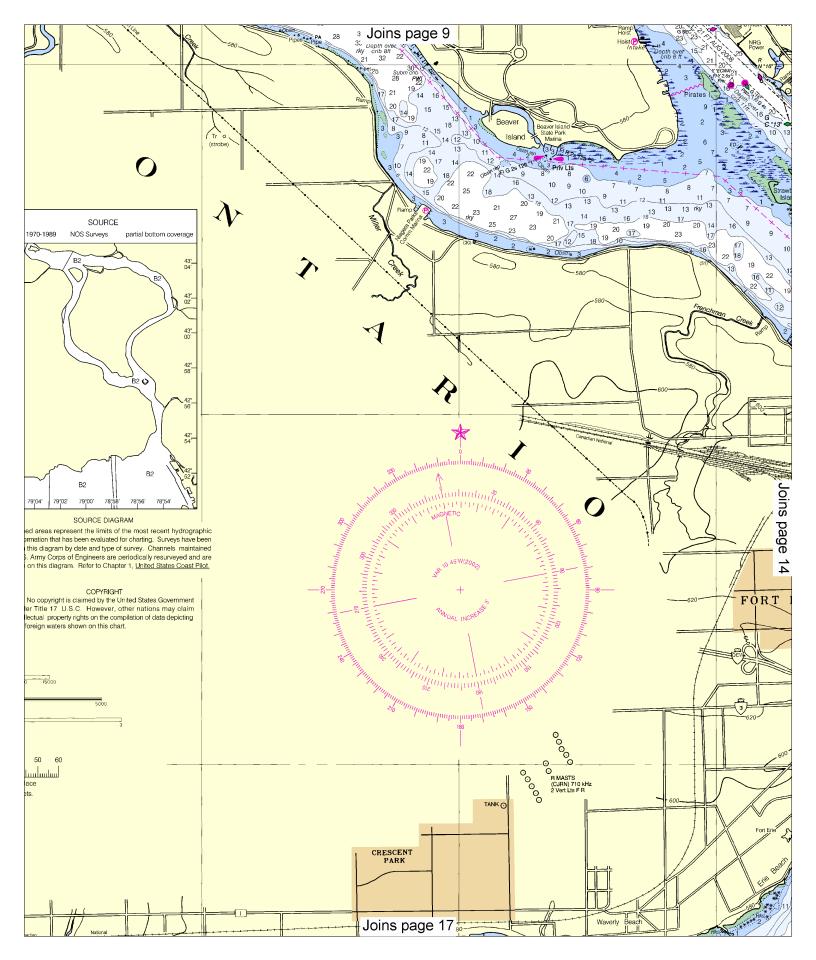


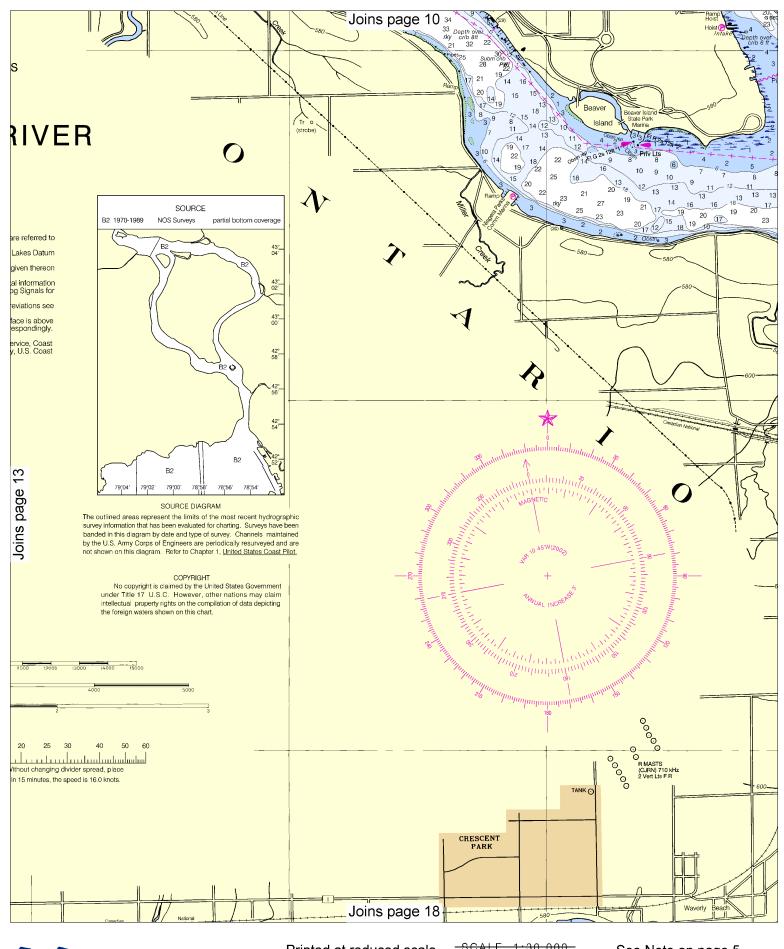




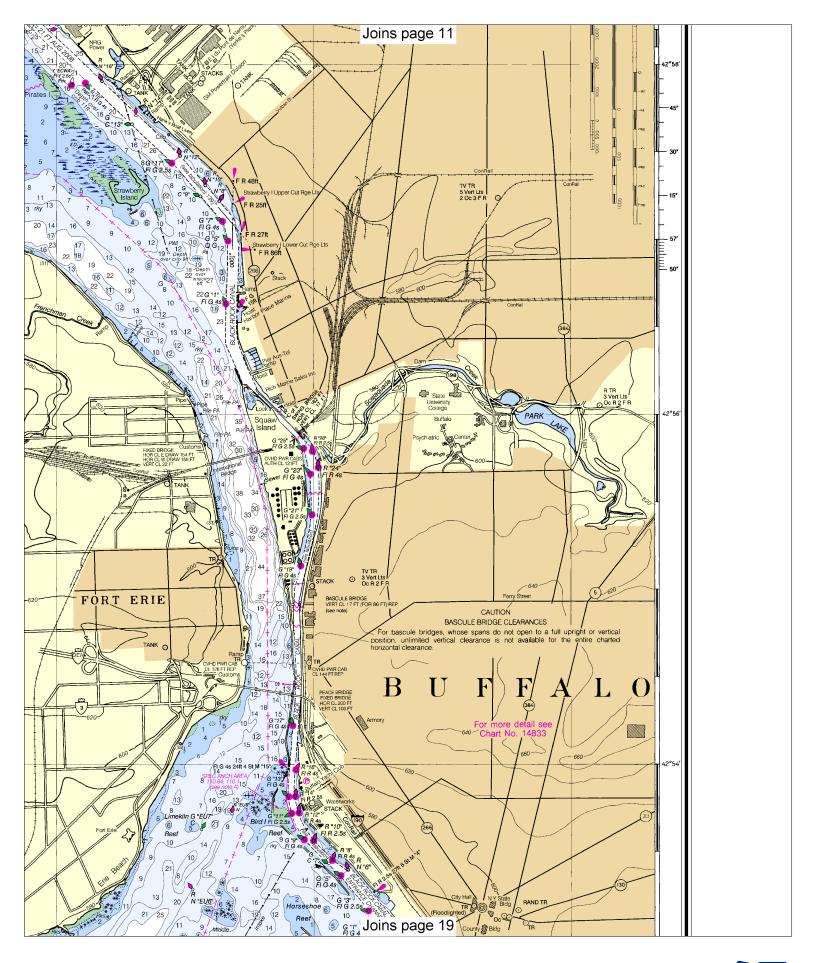


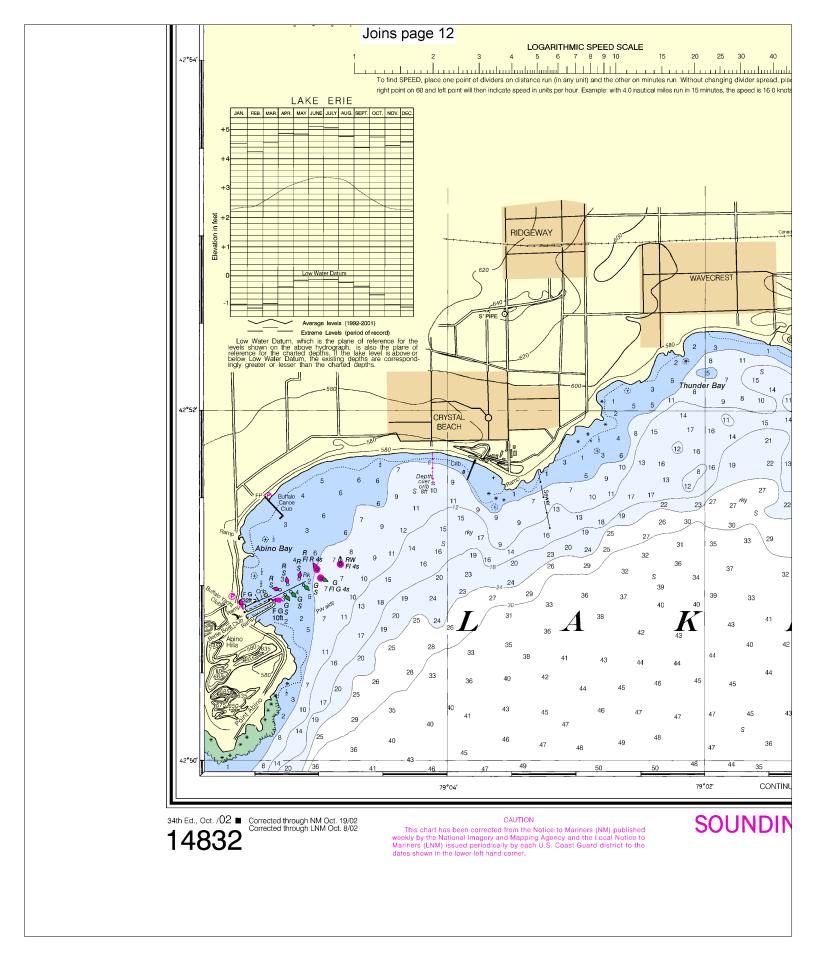




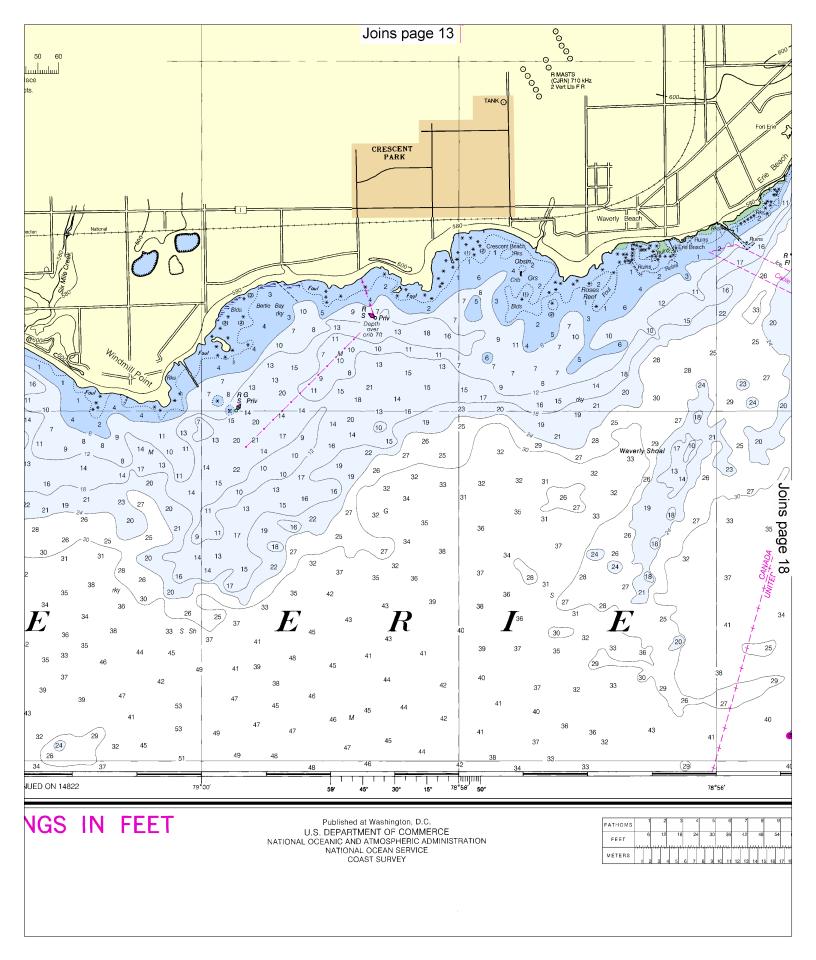


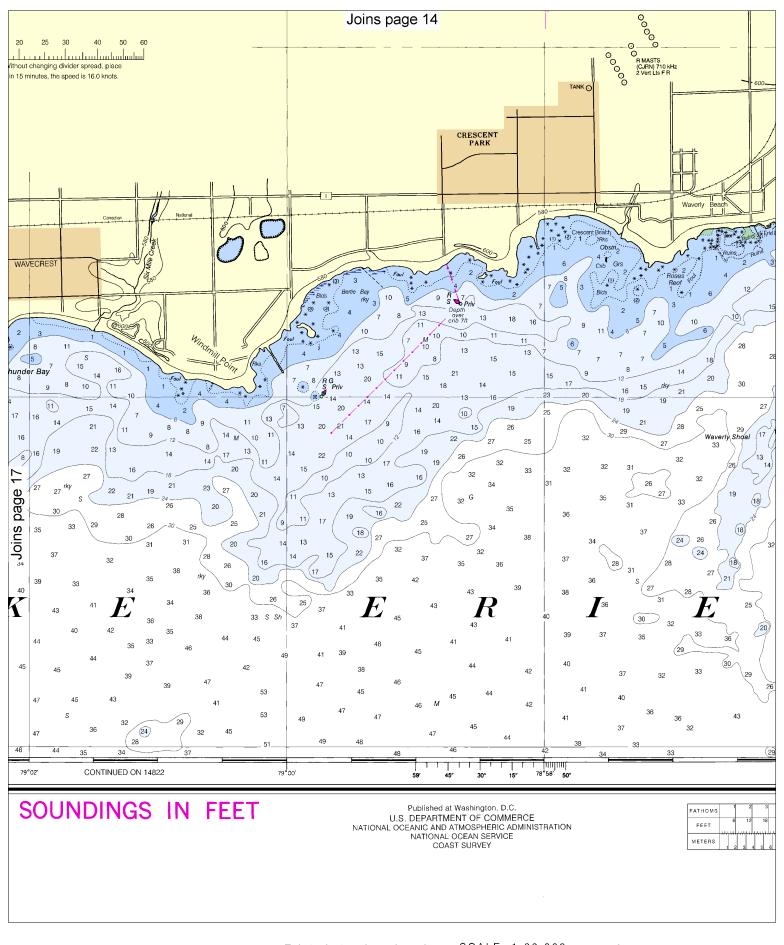




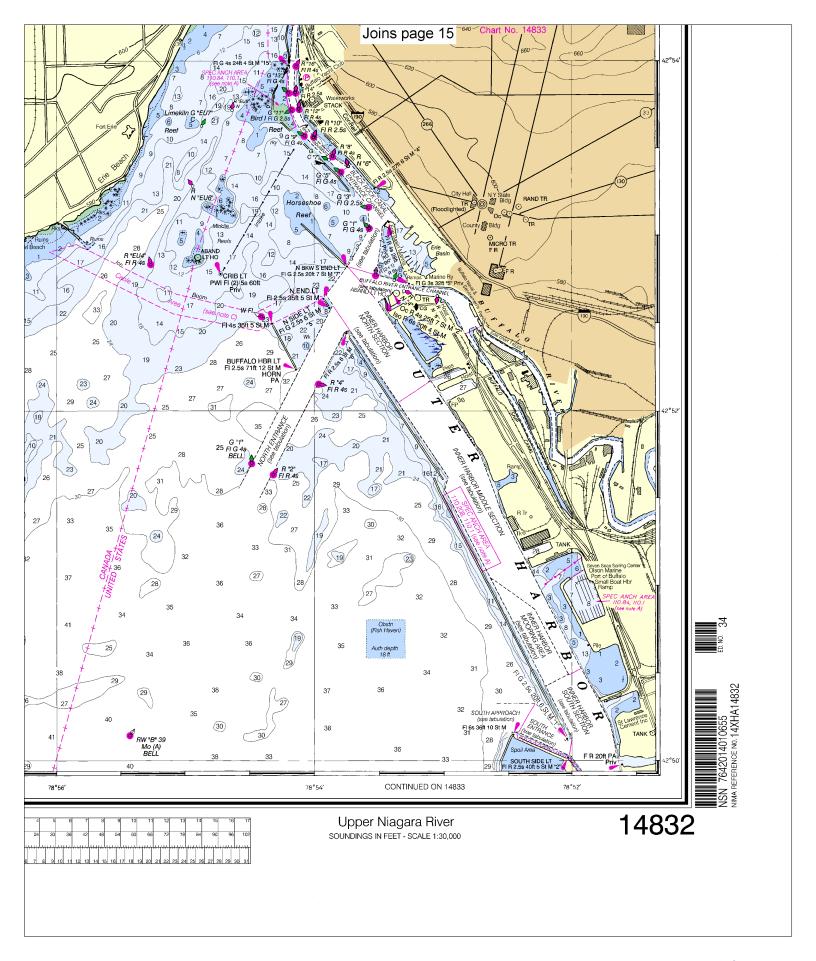


SCALE 1:30,000 Nautical Miles Printed at reduced scale. See Note on page 5. Note: Chart grid lines are aligned Yards 1000 1000 2000 3000 with true north.











## VHF Marine Radio channels for use on the waterways:

**Channel 6** – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other

vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here. Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

**Getting and Giving Help** — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

## **Distress Call Procedures**

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of

Emergency; Number of People on Board.

- · Release transmit button.
- Wait for 10 seconds If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!



NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

http://www.nws.noaa.gov/nwr/

# **Quick References**

Nautical chart related products and information — http://www.nauticalcharts.noaa.gov

Online chart viewer — <a href="http://www.nauticalcharts.noaa.gov/mcd/NOAAChartViewer.html">http://www.nauticalcharts.noaa.gov/mcd/NOAAChartViewer.html</a>

Report a chart discrepancy — http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx

Chart and chart related inquiries and comments — http://ocsdata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs

Chart updates (LNM and NM corrections) — http://www.nauticalcharts.noaa.gov/mcd/updates/LNM\_NM.html

Coast Pilot online — http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm

Tides and Currents — http://tidesandcurrents.noaa.gov

Marine Forecasts — http://www.nws.noaa.gov/om/marine/home.htm

National Data Buoy Center — http://www.ndbc.noaa.gov/

NowCoast web portal for coastal conditions — http://www.nowcoast.noaa.gov/

National Weather Service — http://www.weather.gov/

National Hurrican Center — http://www.nhc.noaa.gov/

Pacific Tsunami Warning Center — http://ptwc.weather.gov/

Contact Us — http://www.nauticalcharts.noaa.gov/staff/contact.htm



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This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

